



October 10, 2016

Meagan E. Ormand Golder Associates Inc. 2108 W. Laburnum Ave. Suite 200 Richmond, VA 23227

RE: Project: Bremo Weekly Process Pace Project No.: 92314507

Dear Meagan Ormand:

Enclosed are the analytical results for sample(s) received by the laboratory on October 03, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nicole Gasiorowski

Micolo Yasiorovske

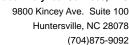
nicole.gasiorowski@pacelabs.com

Project Manager

Enclosures

cc: Ron DiFrancesco, Golder Associates Inc. Martha Smith, Golder Associates Inc. Mike Williams, Golder Associates Inc







CERTIFICATIONS

Project: Bremo Weekly Process

Pace Project No.: 92314507

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alabama Certification #: 41320 Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236 Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14

Nevada Certification: FL NELAC Reciprocity

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity Virginia Environmental Certification #: 460165

Wyoming Certification: FL NELAC Reciprocity

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40 South Carolina Certification #: 99030001 Virginia/VELAP Certification #: 460222

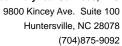
Eden Certification IDs

205 East Meadow Road Suite A, Eden, NC 27288 North Carolina Drinking Water Certification #: 37738

738

North Carolina Wastewater Certification #: 633

Virginia/VELAP Certification #: 460025



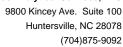


SAMPLE ANALYTE COUNT

Project: Bremo Weekly Process

Pace Project No.: 92314507

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92314507001	T2-161003-0945-S3	SM 2540D	KCE	1	PASI-E
		EPA 350.1 1993 Rev 2.0	KCE	1	PASI-E
		SM 4500-CI-E-2011	KCE	1	PASI-E
		EPA 1664B	JMS	1	PASI-C
		EPA 200.7	CKJ	1	PASI-O
		EPA 200.8	CKJ	11	PASI-O
		EPA 245.1	WAB	1	PASI-A





PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92314507

Method: SM 2540D

Description: 2540D TSS, Low-Level, Eden
Client: Golder_Dominion_Bremo
Date: October 10, 2016

General Information:

1 sample was analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

(704)875-9092





PROJECT NARRATIVE

Bremo Weekly Process Project:

Pace Project No.: 92314507

Method: EPA 350.1 1993 Rev 2.0

Description: 350.1 Ammonia

Client: Golder_Dominion_Bremo

Date: October 10, 2016

General Information:

1 sample was analyzed for EPA 350.1 1993 Rev 2.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

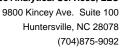
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.





PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92314507

Method: SM 4500-CI-E-2011 Description: 4500 Chloride

Client: Golder_Dominion_Bremo

Date: October 10, 2016

General Information:

1 sample was analyzed for SM 4500-CI-E-2011. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

(704)875-9092





PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92314507

Method: **EPA 1664B**

Description: HEM, Oil and Grease Client: Golder_Dominion_Bremo Date: October 10, 2016

General Information:

1 sample was analyzed for EPA 1664B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.



9800 Kincey Ave. Suite 100 Huntersville, NC 28078 (704)875-9092

PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92314507

Method: EPA 200.7
Description: 200.7 MET ICP

Client: Golder_Dominion_Bremo

Date: October 10, 2016

General Information:

1 sample was analyzed for EPA 200.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.





PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92314507

Method: **EPA 200.8**

Description: 200.8 MET ICPMS Client: Golder_Dominion_Bremo Date: October 10, 2016

General Information:

1 sample was analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

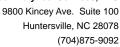
QC Batch: 324369

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 35267739001,35267819004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1729371)
 - Arsenic
 - Silver
- MSD (Lab ID: 1729372)
 - Arsenic
 - Silver

Additional Comments:





PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92314507

Method: EPA 245.1 Description: 245.1 Mercury

Client: Golder_Dominion_Bremo

Date: October 10, 2016

General Information:

1 sample was analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.



ANALYTICAL RESULTS

Project: Bremo Weekly Process

Pace Project No.: 92314507

Date: 10/10/2016 05:30 PM

Sample: T2-161003-0945-S3	Lab ID: 923	14507001	Collected: 10/03/	16 09:45	Received: 1	10/03/16 12:10	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D TSS, Low-Level, Eden	Analytical Met	hod: SM 25	40D					
Total Suspended Solids	1.0	mg/L	1.0	1		10/04/16 10:4	0	
350.1 Ammonia	Analytical Met	hod: EPA 35	50.1 1993 Rev 2.0					
Nitrogen, Ammonia	ND	mg/L	0.20	1		10/04/16 11:5	8 7664-41-7	
4500 Chloride	Analytical Met	hod: SM 450	00-CI-E-2011					
Chloride	50.1	mg/L	5.0	5		10/04/16 10:5	4 16887-00-6	
Field Data	Analytical Met	hod:						
Collected By	L.			1		10/03/16 09:5	7	
Collected Date	Hamelman 10/03/16			1		10/03/16 09:5	7	
Collected Time	09:45			1		10/03/16 09:5	7	
Field pH	7.7	Std. Units	0.10	1		10/03/16 09:5	7	
HEM, Oil and Grease	Analytical Met	hod: EPA 16	664B					
Oil and Grease	ND	mg/L	5.0	1		10/04/16 06:3	4	
200.7 MET ICP	Analytical Met	hod: EPA 20	00.7 Preparation Me	thod: EP	A 200.7			
Tot Hardness asCaCO3 (SM 2340B	171000	ug/L	3300	1	10/04/16 13:4	4 10/04/16 17:1	3	
200.8 MET ICPMS	Analytical Met	hod: EPA 20	00.8 Preparation Me	thod: EP	A 200.8			
Antimony	ND	ug/L	5.0	1	10/05/16 11:44	4 10/10/16 11:4	5 7440-36-0	
Arsenic	47.4	ug/L	5.0	1		4 10/10/16 11:4		
Cadmium	ND	ug/L	1.0	1		4 10/10/16 11:4		
Chromium	ND	ug/L	5.0	1		4 10/10/16 11:4		
Copper	ND	ug/L	5.0	1		4 10/10/16 11:4		
_ead	ND	ug/L	5.0	1		4 10/10/16 11:4		
Nickel	ND	ug/L	5.0	1		4 10/10/16 11:4		
Selenium	ND	ug/L	5.0	1		4 10/10/16 11:4		
Silver	ND	ug/L	0.40	1	10/05/16 11:44	4 10/10/16 11:4	5 7440-22-4	
Thallium	ND	ug/L	1.0	1	10/05/16 11:44	4 10/10/16 11:4	5 7440-28-0	
Zinc	ND	ug/L	25.0	1	10/05/16 11:44	4 10/10/16 11:4	5 7440-66-6	
245.1 Mercury	Analytical Met	hod: EPA 24	15.1 Preparation Me	thod: EP	A 245.1			
Mercury	ND	ug/L	0.10	1	10/04/16 10:3	0 10/05/16 14:5	2 7439-97-6	



Project: Bremo Weekly Process

Pace Project No.: 92314507

QC Batch: 331699 Analysis Method: SM 2540D

QC Batch Method: SM 2540D Analysis Description: 2540D TSS, Low Level, Eden

Associated Lab Samples: 92314507001

METHOD BLANK: 1837641 Matrix: Water

Associated Lab Samples: 92314507001

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Total Suspended Solids mg/L ND 1.0 10/04/16 10:37

LABORATORY CONTROL SAMPLE: 1837642

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Suspended Solids** mg/L 250 242 97 90-110

SAMPLE DUPLICATE: 1837643

Date: 10/10/2016 05:30 PM

Parameter Units Parameter Units Dup Result Result RPD Qualifiers

Total Suspended Solids mg/L ND ND

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Bremo Weekly Process

Pace Project No.: 92314507

QC Batch: 331707

Associated Lab Samples:

Date: 10/10/2016 05:30 PM

QC Batch Method: EPA 350.1 1993 Rev 2.0

Analysis Method: Analysis Description: EPA 350.1 1993 Rev 2.0

350.1 Ammonia, EDEN

METHOD BLANK: 1837661 Matrix: Water

92314507001

Associated Lab Samples: 92314507001

> Blank Reporting

Parameter Limit Qualifiers Units Result Analyzed

ND 0.20 10/04/16 11:53 Nitrogen, Ammonia mg/L

LABORATORY CONTROL SAMPLE: 1837662

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Nitrogen, Ammonia mg/L 5.4 108 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1837664 1837663

MS MSD 92314510002 Spike Spike MS MSD MS MSD % Rec Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual Nitrogen, Ammonia ND 5 5 4.8 4.8 97 90-110 mg/L 96 1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Bremo Weekly Process

Pace Project No.: 92314507

Date: 10/10/2016 05:30 PM

QC Batch: 331665 Analysis Method: SM 4500-CI-E-2011
QC Batch Method: SM 4500-CI-E-2011 Analysis Description: 4500 Chloride, EDEN

Associated Lab Samples: 92314507001

METHOD BLANK: 1837491 Matrix: Water

Associated Lab Samples: 92314507001

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Chloride mg/L ND 1.0 10/04/16 10:44

LABORATORY CONTROL SAMPLE: 1837492

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Chloride mg/L 10 10.5 105 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1837493 1837494

MS MSD 92314510002 Spike Spike MS MSD MS MSD % Rec Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual ND 9.5 90-110 Chloride mg/L 10 10 9.8 98 95 3

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Bremo Weekly Process

Pace Project No.: 92314507

QC Batch: 331637 Analysis Method: EPA 1664B

QC Batch Method: EPA 1664B Analysis Description: 1664 HEM, Oil and Grease

Associated Lab Samples: 92314507001

METHOD BLANK: 1837417 Matrix: Water

Associated Lab Samples: 92314507001

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Oil and Grease mg/L ND 5.0 10/04/16 06:27

LABORATORY CONTROL SAMPLE: 1837418

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Oil and Grease mg/L 40 33.9 85 78-114

MATRIX SPIKE SAMPLE: 1837419

Date: 10/10/2016 05:30 PM

92314399001 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers ND Oil and Grease 40 35.5 89 78-114 mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Bremo Weekly Process

Pace Project No.: 92314507

Mercury

Date: 10/10/2016 05:30 PM

QC Batch: 331689 Analysis Method: EPA 245.1

QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury

Associated Lab Samples: 92314507001

METHOD BLANK: 1837605 Matrix: Water

ug/L

ND

Associated Lab Samples: 92314507001

ParameterUnitsBlank ResultReporting LimitAnalyzedQualifiersMercuryug/LND0.1010/05/16 14:38

LABORATORY CONTROL SAMPLE: 1837606

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Mercury ug/L 2.5 2.2 88 85-115

2.5

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1837608 1837607 MS MSD 92314510001 Spike Spike MS MSD MS MSD % Rec Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual

2.5

2.2

2.3

90

70-130

1

91

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Bremo Weekly Process

Pace Project No.: 92314507

QC Batch: 324323 Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET

Associated Lab Samples: 92314507001

METHOD BLANK: 1728839 Matrix: Water

Associated Lab Samples: 92314507001

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Tot Hardness asCaCO3 (SM 2340B ug/L ND 3300 10/04/16 17:05

LABORATORY CONTROL SAMPLE: 1728840

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Tot Hardness asCaCO3 (SM 2340B ug/L 82700 82900 100 85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1728841 1728842

MS MSD 92314507001 Spike Spike MS MSD MS MSD % Rec Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual Tot Hardness asCaCO3 (SM 171000 82700 82700 287000 70-130 ug/L 291000 140 144 1

2340B

Date: 10/10/2016 05:30 PM

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Bremo Weekly Process

Pace Project No.: 92314507

Date: 10/10/2016 05:30 PM

QC Batch: 324369 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Associated Lab Samples: 92314507001

METHOD BLANK: 1729367 Matrix: Water

Associated Lab Samples: 92314507001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	10/10/16 10:34	
Arsenic	ug/L	ND	5.0	10/10/16 10:34	
Cadmium	ug/L	ND	1.0	10/10/16 10:34	
Chromium	ug/L	ND	5.0	10/10/16 10:34	
Copper	ug/L	ND	5.0	10/10/16 10:34	
Lead	ug/L	ND	5.0	10/10/16 10:34	
Nickel	ug/L	ND	5.0	10/10/16 10:34	
Selenium	ug/L	ND	5.0	10/10/16 10:34	
Silver	ug/L	ND	0.40	10/10/16 10:34	
Thallium	ug/L	ND	1.0	10/10/16 10:34	
Zinc	ug/L	ND	25.0	10/10/16 10:34	

LABORATORY CONTROL SAMPLE:	1729368					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	ug/L	50	43.9	88	85-115	
Arsenic	ug/L	50	44.5	89	85-115	
Cadmium	ug/L	5	4.4	88	85-115	
Chromium	ug/L	50	48.7	97	85-115	
Copper	ug/L	50	48.6	97	85-115	
Lead	ug/L	50	44.6	89	85-115	
Nickel	ug/L	50	49.2	98	85-115	
Selenium	ug/L	50	43.7	87	85-115	
Silver	ug/L	5	4.5	91	85-115	
Thallium	ug/L	50	45.1	90	85-115	
Zinc	ug/L	250	235	94	85-115	

MATRIX SPIKE & MATRIX S	PIKE DUPLICAT	E: 17293			1729370						
	352	267739001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qual
Antimony	ug/L	0.50U	50	50	45.1	46.1	90	92	70-130	2	
Arsenic	ug/L	1.3	50	50	47.1	48.7	92	95	70-130	3	
Cadmium	ug/L	0.076J	5	5	4.4	4.6	86	91	70-130	6	
Chromium	ug/L	2.1	50	50	52.5	52.3	101	100	70-130	0	
Copper	ug/L	16.9	50	50	64.6	64.4	95	95	70-130	0	
Lead	ug/L	0.70J	50	50	43.4	44.7	85	88	70-130	3	
Nickel	ug/L	3.4	50	50	53.4	51.8	100	97	70-130	3	

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Project: Bremo Weekly Process

Pace Project No.: 92314507

Date: 10/10/2016 05:30 PM

MATRIX SPIKE & MATRIX SPIK	E DUPLICAT	E: 17293	69		1729370						
			MS	MSD							
	352	267739001	Spike	Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qual
Selenium	ug/L	0.50U	50	50	38.8	42.5	77	84	70-130	9	
Silver	ug/L	0.20	5	5	4.7	4.9	90	93	70-130	3	
Thallium	ug/L	0.50U	50	50	43.5	44.9	87	90	70-130	3	
Zinc	ug/L	110	250	250	337	344	91	94	70-130	2	

MATRIX SPIKE & MATRIX S	SPIKE DUPLICAT	E: 17293	71 MS	MSD	1729372						
Parameter	352 Units	267819004 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Antimony	ug/L	<0.50	50	50	52.2	52.0	104	104	70-130		
Arsenic	ug/L	< 0.50	50	50	97.2	96.4	194	193	70-130	1 M1	
Cadmium	ug/L	< 0.050	5	5	4.7	4.7	94	93	70-130	1	
Chromium	ug/L	< 0.50	50	50	52.1	53.1	103	105	70-130	2	
Copper	ug/L	< 0.93	50	50	49.9	50.4	100	100	70-130	1	
_ead	ug/L	< 0.50	50	50	50.7	50.7	101	101	70-130	0	
Nickel	ug/L	0.82J	50	50	51.4	53.3	101	105	70-130	4	
Selenium	ug/L	< 0.50	50	50	46.2	47.0	92	94	70-130	2	
Silver	ug/L	16.0	5	5	4.8	4.8	-223	-224	70-130	0 M1	
Thallium	ug/L	< 0.50	50	50	51.1	51.4	102	103	70-130	1	
Zinc	ug/L	10.4	250	250	254	253	98	97	70-130	0	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: Bremo Weekly Process

Pace Project No.: 92314507

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

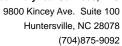
PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte
PASI-E	Pace Analytical Services - Eden
DACLO	Dana Arabitiani Caminasa Oromand Di

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

Date: 10/10/2016 05:30 PM

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Bremo Weekly Process

Pace Project No.: 92314507

Date: 10/10/2016 05:30 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92314507001	T2-161003-0945-S3	SM 2540D	331699		
92314507001	T2-161003-0945-S3	EPA 350.1 1993 Rev 2.0	331707		
92314507001	T2-161003-0945-S3	SM 4500-CI-E-2011	331665		
92314507001	T2-161003-0945-S3				
92314507001	T2-161003-0945-S3	EPA 1664B	331637		
92314507001	T2-161003-0945-S3	EPA 200.7	324323	EPA 200.7	324327
92314507001	T2-161003-0945-S3	EPA 200.8	324369	EPA 200.8	324682
92314507001	T2-161003-0945-S3	EPA 245.1	331689	EPA 245.1	331713

Pace Analytical*

Out of hold, incorrect preservative, out of temp, incorrect containers)

Document Name: Sample Condition Upon Receipt(SCUR)

Document No.: F-MEC-CS-009-Rev.03 Document Revised: May 24, 2016 Page 1 of 2

Issuing Authority:
Pace Mechanicsville Quality Office

				Page 2 of 2 for Internal Use ONLY
Sample Condition Upon Client Name:	Bre	ML)	Project #: WO#: 92314507
Courier:	□us □oti	PS her:	_	Client 92314507
Custody Seal Present? Yes No Seals	Intact?	□Y.	es []No
Packing Material: Bubble Wrap Bub	ble Bags	ΔN	lone /	Date/Initials Person Examining Contents: 10-3-16 Other: RSB
RMD001	Туре с	of Ice:	₩et	☐ Blue ☐ None ☐ Samples on ice, cooling process has begun
Correction Factor: 0.0°C Cooler Temp Corrected (°C): Temp should be above freezing to 6°C USDA Regulated Soil (N/A, water sample) Did samples originate in a quarantine zone within the United		.0	SC (check	
Yes No				including Hawaii and Puerto Rico)? ☐Yes ☐No Comments/Discrepancy:
Chain of Custody Present?	Yes	□No	□N/A	1.
Samples Arrived within Hold Time?	Yes	□No	□N/A	2.
Short Hold Time Analysis (<72 hr.)?	□yes	✓No	□N/A	3.
Rush Turn Around Time Requested?	√,Yes	□No	- □N/A	4.
Sufficient Volume?	✓yes	□No	□N/A	5.
Correct Containers Used?	√yes	□No	□N/A	6.
-Pace Containers Used?	Yes	□No	□N/A	
Containers Intact?	Yes	□No	□N/A	7.
Samples Field Filtered?	□Yes	□No	VN/A	8. Note if sediment is visible in the dissolved container
Sample Labels Match COC?	Yes	□No	□N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WW				
All containers needing acid/base preservation have been	A			10. _{HNC3 pH<2}
checked? All containers needing preservation are found to be in	Yes	∐No	□N/A	на рнк2
compliance with EPA recommendation?	_1	<u></u>	<u> </u>	H2SO4 pH<2
(HNO₃, H₂SO₄, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease,	☑Yes	□No	□N/A	NaOH pH>12
DRO/8015 (water) DOC,LLHg	□Yes	□No	□N/A	NaOH/ZnOAc pH>9
Samples checked for dechlorination?	Yes	□No	₩N/A	11.
Headspace in VOA Vials (>5-6mm)?	□Yes	□No	M/A	12.
Trip Blank Present?	□Yes	□No	₩/A	13.
Trip Blank Custody Seals Present?	□Yes	□No	N/A	*
Pace Trip Blank Lot # (if purchased):				
CLIENT NOTIFICATION/RESOLUTION				Field Data Required? ☐Yes ☐No
Person Contacted: Comments/Sample Discrepancy:				Date/Time:
Project Manager SCURF Review:	N	MG		Date: 10/4/10
Project Manager SRF Review: Note: Whenever there is a discrepancy affecting North Carolina	complian	NM(- ce sample	es, a copy	Date: 1046 of this form will be sent to the North Carolina DEHNR Certification Office (i.e.

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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					All analyses to be performed under Golder-Pace MSA dated 12/19/2008	ADDIT												-1	SAMI (A-Z. Sample IDs M	Section D Required Client Information		Requested Due Date/TAT:	804-551-0129		Richmond		ny: Golder Associates	Section A Required Client Information
					ed under Golder-Pa	ADDITIONAL COMMENTS											_	2-161003-0945-	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	rmation		,	Fax: 804-358-2900	Mormand@golder.com	Richmond, VA 23227	2108 W Laburnum Ave, S	sociates	×
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